National Aeronautics and Space Administration

NASA'S JOURNEY TO MARS

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NASA is developing the capabilities needed to send humans to an asteroid by 2025 and Mars in the 2030s – goals outlined in the bipartisan NASA Authorization Act of 2010 and in the U.S. National Space Policy, also issued in 2010.

Why Mars?

Mars is a rich destination for scientific discovery and robotic and human exploration as we expand our presence into the solar system. Its formation and evolution are comparable to Earth, helping us to learn more about our own planet's history and future. In our lifetimes, NASA and its partners can answer some of humanity's fundamental questions about life beyond Earth. Was Mars home to microbial life? Is it today? Could it one day be a safe home for humans? And, what can it teach us about Earth's past, present and future?

Near Earth

NASA's human journey to Mars begins in low-Earth orbit aboard the International Space Station. Astronauts on the orbiting laboratory are mastering the fundamentals of human space exploration, helping us prove many of the technologies and communications systems needed for human missions to deep space, including Mars. Space station research also advances our understanding of how the body changes in space and how to protect astronaut health. Understanding the limitations and capabilities of the how the human body, as well as the mind, reacts in space will be essential for long-duration missions outside of low-Earth orbit.

Astronautics

Beyond low-Earth orbit is the proving ground, where NASA will send a robotic mission to capture and redirect an asteroid to orbit the moon. Astronauts aboard NASA's Orion spacecraft will explore the asteroid in the 2020s, returning to Earth with samples. This ambitious undertaking will help NASA test new systems and capabilities that will take humans farther into space than ever before.

Deep Space Systems

The Orion spacecraft is designed to support human exploration missions to multiple destinations in deep space. Named after one of the most prominent constellations in the night sky and building upon more than 50 years of spaceflight research and development, Orion is designed to meet the evolving needs of our nation's deep space exploration program for decades to come.

The Space Launch System will carry the Orion spacecraft into deep space. It is the first rocket and launch system capable of powering humans, habitats and support systems to deep space — creating new opportunities for human and scientific exploration. The evolved version of SLS will be the most powerful launch vehicle ever flown.

Robotic Explorers

NASA's robotic scientific explorers have studied Mars for more than 40 years. A fleet of robotic spacecraft and rovers are already on and around Mars, dramatically increasing our knowledge and charting the course for future human explorers.Together, humans and robotics will pioneer Mars and the solar system.

NASA's Journey to Mars

We know there are solvable challenges for human missions to Mars: getting there, landing, living and working on Mars and safely returning.

We believe the journey is worth the risks.

The endeavor will improve lives on Earth by advancing scientific knowledge and discovery, new technologies, economic opportunities (as all giant leaps in transportation and exploration have) and U.S. leadership in the peaceful, international exploration of space.

Join us on the Journey To Mars.

Space Flight Awareness

#JOURNEYTOMARS

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NP-2014-00-000-HQ